



Statement of Work Report

Project Title: Cbfwa Monitor/Eval Program
Project #: 2003-036-00
Contract Title: PI 200303600 PL CBFWA MONITOR/EVAL PROGRAM
Province: Systemwide **Subbasin:** Systemwide Projects
Perf. Period Budget: \$0 **Perf. Period:** 10/1/2005 - 9/30/2006
Contractor(s): Columbia Basin Fish and Wildlife Authority (CBFWA) (Prime - COLBASFI00)
BPA Internal Ref: CR-00068515

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Work Element Table of Contents:

<u>Work Element - Work Element Title</u>	<u>EC Needed*</u>	<u>Estimate</u>	<u>(%)</u>
A : Coordination - Work collaboratively with specific programmatic and technical groups to develop quarterly workplans		\$208,059	(21 %)
B : Produce Status Report - Quarterly Reports		\$4,100	(0 %)
C : Produce Inventory or Assessment - Catalogue Existing Monitoring Data	*	\$146,292	(15 %)
D : Produce Inventory or Assessment - Make a subset of existing monitoring data available through the internet	*	\$38,026	(4 %)
E : Analyze/Interpret Data - Evaluate the ability to answer key questions with existing data		\$179,420	(19 %)
F : Develop RM&E Methods and Designs - Collaborative Mo		\$312,668	(32 %)



<u>Work Element - Work Element Title</u>	<u>EC Needed*</u>	<u>Estimate</u>	<u>(%)</u>
G : Provide Technical Review - Multi-agency implementation of monitoring programs		\$37,634	(4 %)
H : Provide Technical Review - Multi-agency evaluation of results of new monitoring programs		\$30,603	(3 %)
I : Produce Annual Report - Complete FY05 Annual Report		\$5,000	(1 %)
J : Produce Annual Report - Prepare FY05 Annual Report		\$7,000	(1 %)
Total:		\$968,802	

* Environmental Compliance (EC) needed before work begins.

Contract Description:

Collaborative Systemwide Monitoring and Evaluation Project
Statement of Work and Budget FY2006

BPA Project Number: 2003-036-00

BPA Project Title: Collaborative Systemwide Monitoring and Evaluation Project

Contract Number: CR-68515

Contract Title: PI 200303600 PL CBFWA MONITOR/EVAL PROGRAM

Performance/Budget Period: October 1, 2005 - September 30, 2006

Work Plan for FY 2006

CBFWA Collaborative, Systemwide Monitoring and Evaluation Project (CSMEP)

Project No. 2003-036-00

This project is a collaborative effort, led by the Columbia Basin Fish and Wildlife Authority (CBFWA). It is co-sponsored by BPA, the NOAA Fisheries (abbreviated here as NOAAF, previously called National Marine Fisheries Service or NMFS), the U.S. Fish and Wildlife Service (USFWS), four state fish agencies (WDFW, ODFW, IDFG, MFWP), the Fish Passage Center (FPC), the Columbia River Inter-Tribal Fish Commission (CRITFC) and other Columbia Basin tribes. It also involves several other Columbia Basin entities, such as the Northwest Power and Conservation Council (NPCC). The project began in October 2003 through BPA funding of the Mainstem Systemwide set of projects, and was designed to continue for 3 years, until the end of September 2006.

The project focuses on the issue of systemwide monitoring and evaluation of fish status, addressing requirements of NOAAF and USFWS Biological Opinions and Recovery Plans as well as the NPCC Fish and Wildlife Program. It proposes an integrated, collaborative effort by fisheries scientists and biometricians to fulfil seven objectives:

1. Interact with federal, state and tribal programmatic and technical entities responsible for monitoring and evaluation of fish and wildlife, to ensure that quarterly work plans developed and executed under this project are well integrated with ongoing work by these entities. (Interaction between CSMEP, the Pacific Northwest Aquatic Monitoring Programs (PNAMP), and the NOAA/AA Pilot Projects is particularly important to this task.)
2. Collaboratively inventory existing monitoring data that bear on the problem of evaluating the status and trend of salmon, steelhead, bull trout and other species of regional importance across the U.S. portion of the Columbia Basin, and for selected parts of the Columbia Basin in Canada which affect the status of key fish stocks in the U.S. Columbia Basin (e.g. Okanagan sockeye).
3. Work with existing entities (e.g. StreamNet, NOAA Fisheries, NPCC) to make a subset of existing monitoring data available through the Internet, recognizing the continuing evolution of data management in



[illegible]



Statement of Work Report

Work Element Details

A: Coordination

- Title:** Work collaboratively with specific programmatic and technical groups to develop quarterly workplans
- Description:** Interact with federal, state and tribal programmatic and technical entities responsible for monitoring and evaluation of fish and wildlife, to ensure that quarterly work plans developed and executed under this project are well integrated with ongoing work by these entities. The frequency of meetings with other programmatic and technical entities will be higher as CSMEP is initiated, and should decline as roles and responsibilities are better defined.
- Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)
- Deliverable Specification:** The Quarterly Workplans will describe the tasks and work products for each 3 month period. They will consist of a concise tabular action list that will be derived from CSMEP's FY06 SOW and will be used in CSMEP's coordination meetings to keep an ongoing record of progress on tasks and deliverables. The action list table may include appendices as necessary to describe the required staff time and budgets for particular tasks, as well as the planned interactions with other entities (e.g., BPA, PNAMP, NPCC) and a schedule of activities. The quarterly frequency of work planning and explicit interactions with BPA / PNAMP during their preparation will ensure that CSMEP does not duplicate ongoing RME efforts, and will help to build the collaborative base that is essential for improving M&E in the Columbia River Basin. The Quarterly Workplans will be posted on the CSMEP website.

Milestone Title	Start Date	End Date	Milestone Description
Meet with BPA / PNAMP Representatives re 1st Quarter Workplan	9/15/2005	9/30/2005	CSMEP will meet with BPA and PNAMP reps to review the 1st Quarter Workplan to synchronize with, supplement and support ongoing regional RME activities.
1st Quarter Workplan	10/1/2005	12/31/2005	Collaboratively developed plan for work during first quarter. Will be reviewed and revised throughout quarter to prepare 2nd Quarter Workplan.
Meet with BPA / PNAMP Representatives re 2nd Quarter Workplan	12/15/2005	12/31/2005	CSMEP will meet with BPA and PNAMP reps to review the 2nd Quarter Workplan to synchronize with, supplement and support ongoing regional RME activities.
2nd Quarter Workplan	1/1/2006	3/31/2006	Collaboratively developed plan for work during first quarter. Will be reviewed and revised throughout quarter to prepare 2nd Quarter Workplan.
Meet with BPA / PNAMP Representatives re 3rd Quarter Workplan	3/15/2006	3/31/2006	CSMEP will meet with BPA and PNAMP reps to review the 3rd Quarter Workplan to synchronize with, supplement and support ongoing regional RME activities.
3rd Quarter Workplan	4/1/2006	6/30/2006	Collaboratively developed plan for work during first quarter. Will be reviewed and revised throughout quarter to prepare 2nd Quarter Workplan.
Meet with BPA / PNAMP Representatives re 4th Quarter Workplan	6/15/2006	6/30/2006	CSMEP will meet with BPA and PNAMP reps to review the 4th Quarter Workplan to synchronize with, supplement and support ongoing regional RME activities.
4th Quarter Workplan	7/1/2006	9/30/2006	Collaboratively developed plan for work during first quarter. Will be reviewed and revised throughout quarter to prepare 2nd Quarter Workplan.
Participate in PNAMP fish monitoring, watershed condition, and Action Effectiveness workgroups.	10/1/2005	9/30/2006	CSMEP representative will attend meetings as they occur throughout FY06.
ISAB Report Reviews	6/1/2006	9/30/2006	CSMEP will provide deliverables to ISAB for review as originally requested by the ISAB.

**B: Produce Status Report****Title:** Quarterly Reports**Description:** Quarterly reports describing progress relative to CSMEP tasks and specific elements of the quarterly workplans.**Metrics:** (no metrics needed beyond the deliverables/reports specified by contract)

Deliverable Specification: Quarterly reports will provide brief (5 page) summaries of the progress made in each quarter on each of the major CSMEP work elements. Progress relative to the tasks and deliverables defined in the Quarterly Workplans will be summarized as bullets under the CSMEP Task headings to which they pertain. Any associated CSMEP work products (e.g., documents, spreadsheets, workshop reports) will be stored on the CSMEP website and referenced in the Quarterly Reports using the file names and active web links. Important issues not captured in other CSMEP documentation that impact upon CSMEP progress (e.g., problems encountered/resolved) will be documented in short paragraphs. More detail will be provided in the FY06 Annual Report where necessary.

Milestone Title	Start Date	End Date	Milestone Description
1st Quarterly Report	1/1/2006	1/15/2006	The 1st Quarterly Report will summarize the progress CSMEP has made during the first quarter of FY06.
2nd Quarterly Report	4/1/2006	4/15/2006	The 2nd Quarterly Report will summarize the progress CSMEP has made during the second quarter of FY06.
3rd Quarterly Report	7/1/2006	7/15/2006	The 3rd Quarterly Report will summarize the progress CSMEP has made during the third quarter of FY06.
4th Quarterly Report	9/1/2006	9/30/2006	The 4th Quarterly Report will summarize the progress CSMEP has made during the third quarter of FY06. It will be part of the first draft of the Annual Report.

C: Produce Inventory or Assessment**Title:** Catalogue Existing Monitoring Data

Description: Collaboratively inventory existing monitoring data that bear on the problem of evaluating the status of salmon, steelhead, bull trout and other species of regional importance across the U.S. portion of the Columbia Basin, and for selected parts of the Columbia Basin in Canada that affect the status of key fish stocks in the U.S. Columbia Basin (e.g. Okanagan sockeye). Catalogues of data and metadata relevant to Tier 1-3 questions, building on existing catalogues and data warehouses. The catalogues will be organized around distinctive types of performance measures, as required to address Tier 1, 2 and 3 questions. Catalogues completed to date (C1 and C4 tables) are available on CSMEP website.

Metrics: (no metrics needed beyond the deliverables/reports specified by contract)

Deliverable Specification: The deliverables for this Work Element are: 1) conducting the inventory, 2) entering inventory information into the CSMEP web meta-database, 3) providing QA/QC for this data, and 4) preparing a report that describes the details of the inventory process to be included as a section, or appendix in the FY06 Annual Report. As of July 8th, 2006 there was uncertainty about how the next phase of inventory would proceed. Discussions with BPA / PNAMP during the 4th Quarter of FY05 will determine the final scope of this inventory stage as well as the final set of deliverables.



Milestone Title	Start Date	End Date	Milestone Description
Inventory for new subbasins	10/1/2005	12/31/2005	StreamNet and CSMEP biologists inventory subbasins for monitoring data relevant for previously defined performance measures. The scope and format of this inventory work will depend on the outcome of discussions with BPA and StreamNet in the 4th Quarter of FY05.
Enter Results into Database	10/1/2005	3/31/2006	StreamNet and CSMEP biologists staff enter inventory results into the CSMEP web metadatabase
QA/QC by CSMEP Biologists	11/1/2005	4/30/2006	CSMEP biologists review inventory data to ensure that it has been entered properly and has the correct attributes.
Inventory Report	5/1/2006	9/30/2006	Section in FY06 Annual Report describing the Data Inventory process and procedures.

D: Produce Inventory or Assessment

Title: Make a subset of existing monitoring data available through the internet

Description: Work with existing entities (e.g. StreamNet, NOAA Fisheries, NPCC, SWIMTAC) to make a subset of existing monitoring data available through the Internet, recognizing the continuing evolution of data management in the Columbia Basin. The preferred forms for relational databases would depend on the evolving structure of regional data storage and access. One possibility is to build on the databases already available through existing data warehouses (e.g., Fish Passage Center, Streamnet), and merely provide pointers to this information in the catalogues. As this task has been given a relatively low priority, CSMEP staff will provide data, but rely on entities such as StreamNet, the NOAA Science Center, or others to administer databases within their ongoing responsibilities.

Metrics: (no metrics needed beyond the deliverables/reports specified by contract)

Deliverable Specification: 1) Improved hyper-links to the data sources identified in the subbasin inventories as well as supporting materials identified in the QA/QC and Strengths and Weaknesses analysis of those data (e.g., reports, databases, maps showing where data sets are collected). 2) Improved meta-database capability based on ongoing comments from users. 3) Meta-database description and User documentation as section in the FY06 Annual Report.

Milestone Title	Start Date	End Date	Milestone Description
Improved hyperlinks to information	10/1/2005	6/30/2006	Ongoing improvement of links to value added content based on user requests and suggestions.
Improved meta-databases	10/1/2005	6/30/2006	Ongoing improvement of meta-database functionality based on user feedback.
Documentation of system	6/1/2006	9/30/2006	Meta-database description and User documentation.

E: Analyze/Interpret Data

Title: Evaluate the ability to answer key questions with existing data



Description: Collaboratively work with federal, state, and tribal multi-agency work groups to critically assess the strengths and weaknesses of existing monitoring data and associated evaluation methods for answering key questions at various spatial scales concerning the state of ecosystems and fish habitat, as well as fish distributions, stock status and responses to management actions. For each Tier 1-3 question.

Tier 1 Pilot Analysis: Assess limitations of existing data for answering Tier 1 questions, relative benefits of different types of improvements in these data, and recommendations.

Tier 2 Data Analysis Report: Including assessing the features of existing data sets which have the greatest effect on the strength of inferences, the potential benefits of different types of data improvements, analyses of cost-precision tradeoffs for different M&E strategies, and overall recommendations.

Tier 3 Data Analysis Report: Outlining the feasibility of testing action effectiveness hypotheses with existing data using various data analysis methods. In FY06 we would continue to improve on Tier 3 assessments completed in FY05.

Metrics: (no metrics needed beyond the deliverables/reports specified by contract)

Deliverable Specification: 1) Completed strengths and weaknesses analysis for the inventory results of new subbasins inventoried in FY06 following the Table B2 format developed in FY04. Which subbasins and the scope of this analysis depends on the outcome of discussions with BPA and StreamNet in the 4th Quarter of FY05. 2) Draft Synthesis Report of Strength and Weaknesses results over all subbasins inventoried in the CSMEP project. Follow format presented in Appendix of FY04 Annual Report. 3) A Final Synthesis report based on review comments for the draft (e.g., CSMEP, PNAMP and ISAB reviewers).

Milestone Title	Start Date	End Date	Milestone Description
Strengths and Weaknesses Analysis	10/1/2005	1/31/2006	Work with Federal AA and NOAAF Pilot project workgroups on finalizing completed strengths and weaknesses assessments for the next round of Subbasin inventories. The scope and format of this inventory work will depend on the outcome of discussions with BPA and StreamNet in the 4th Quarter of FY05.
Draft Synthesis Report	10/1/2005	3/31/2006	Synthesis analysis of Strengths and Weaknesses assessments for all subbasins inventoried in the CSMEP project. Synthesis will describe implications of results for M&E design in the Columbia River Basin. Include and evaluation of Table C4 inventory information (opportunities for effectiveness evaluation).
Final Synthesis Report	4/1/2006	6/30/2006	Revise draft report based on review comments to prepare Final synthesis report.

F: Develop RM&E Methods and Designs

Title: Collaborative Monitoring Program Design

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Deliverable Specification:	1) Consolidation of Snake River pilot and PrOACT tradeoff analysis. 2) Inform Salmon basin pilot study. 3) M&E Recommendations. 4) M&E Results for 3-year Rolling Provincial Reviews: 4a) Tools for M&E Designs, 4b) General M&E guidance, 4c) Meetings with AA and NOAAF Pilot Projects to exchange learning.
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Milestone Title	Start Date	End Date	Milestone Description
Draft Consolidation of the Snake River pilot M&E design and ProACT tradeoff analysis.	10/1/2005	12/31/2005	Consolidate Snake River pilot M&E design and ProACT tradeoff analysis. The quantitative focus will be on spring-summer chinook with discussion of design considerations for steelhead and bull trout. Distribute for review.
Final Snake River pilot consolidation	1/1/2006	2/28/2006	Revise draft Snake River Pilot consolidation based on reviewer comments.
Draft - Inform Salmon basin Pilot study.	1/1/2006	4/30/2006	Convert SRB findings into a practical plan for the Salmon basin Pilot study (already cross-pollination as CSMEP people involved).
Final - Inform Salmon basin Pilot study.	5/1/2006	7/31/2006	Revise draft Inform Salmon basin Pilot study based on reviewer comments.
Draft - M&E Recommendations for other subbasins in the CRB	10/1/2005	8/31/2006	Options (not mutually exclusive): 1. Rough estimate of what it would cost for L-M-H M&E designs across the whole CRB for the designs and species considered in the SRD study, building around level of monitoring infrastructure in different subbasins (could build on the coarse level catalog described under task 2, and Subbasin plan M&E descriptions); 2. Apply the SRB pilot M&E design to one or more subbasins from the CSMEP inventory, to see how effective and transferable the design is; 3. apply CSMEP templates to a Federal Action Agency pilot project, to test if CSMEP approaches and pilot project designs are convergent; and/or 4. consider higher-level integration of M&E across multiple subbasins (e.g. contrasts in stock status and productivity).
Final - M&E Recommendations for other subbasins in the CRB.	9/1/2006	9/30/2006	Revise draft based on reviewer comments.
Feed M&E results into NPCC F&W 3 year rolling provincial reviews	10/1/2005	9/30/2006	Ongoing over FY06. Try to get CSMEP results out for the first set of provincial reviews (see NPCC project review process memo for FY07 - 18 months to do this whole review, starting latter half of FY05). Possible CSMEP work products are specified in the milestones for "M&E Results" 1 through 3 below.
M&E Results 1): Tools to use for M&E designs.	10/1/2005	8/31/2006	Tools to use for M&E designs that allow exploration of tradeoffs across alternative M&E designs (e.g. L, M, H) for different questions, at scales of interest (e.g. project, population, MPG, ESU, CRB).
M&E Results 2): General M&E Guidance to feed into Rolling Provincial Reviews.	10/1/2005	12/31/2005	General M&E Guidance to feed into Rolling Provincial Reviews. Provide a clear description of the components to be included in this guidance (e.g., develop a checklist of things to ask about each project, identify core elements that each project description should address) to aid the Council in the design of the review process over the fall. This product will evolve over time, with the first outline included in the FY05 Annual Report (Sept-Nov 2005). Subsequent revisions will accompany further development of CSMEP products and analyses.
M&E Results 3): Meetings with Federal Action Agencies and NOAA Pilot project workgroups.	10/1/2005	9/30/2006	Meetings with Federal Action Agencies and NOAA Pilot project workgroups to ensure sharing of the results and learning from both programs. This is an ongoing, as needed, or by request task.

G: Provide Technical Review

Title: Multi-agency implementation of monitoring programs

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Deliverable Specification:	1) Provide documentation to provide M&E guidance during the design of the NPCC Rolling Provincial Review process beginning in the Fall of 2005. Preliminary documentation will be provided in Fall 2005 to indicate what information CSMEP will provide over FY06 and to outline what components should be developed further. 2) Habitat DQO work using Lemhi HCP example is expected to inform the development of monitoring plans for that watershed. 3) Assist NOAA/IDFG in Salmon Subbasin Pilot project.
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Milestone Title	Start Date	End Date	Milestone Description
NPCC Rolling Provincial Reviews	9/1/2005	9/30/2006	CSMEP will provide M&E guidance to the NPCC Rolling Provincial Review process. This task will begin in the last month of the FY05 contract.
Inform M&E for Lemhi HCP	10/1/2005	12/31/2005	Habitat DQO work using Lemhi HCP example is expected to inform the development of monitoring plans for that watershed. Work on this started in FY05 and is ongoing.
Assist NOAA/IDFG in Salmon Subbasin Pilot project.	10/1/2005	9/30/2006	Use results from the CSMEP Snake River basin pilot analysis to develop the M&E design for the Salmon Subbasin Pilot project.

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Milestone Title	Start Date	End Date	Milestone Description
Review of AA/NOOAF Pilot studies	10/1/2005	9/30/2006	CSMEP will help review results of RME pilot projects (e.g., Wenatchee, John Day). The level of effort of CSMEP relative to NOAA remains to be determined.
Workshop attendance	10/1/2005	9/30/2006	CSMEP will participate in PNAMP effectiveness monitoring, watershed condition and fish monitoring workgroups and the Federal Action Agencies / NOAA RME workgroups. Schedule for meetings to be determined.

I: Produce Annual Report

Title: Complete FY05 Annual Report

Description: Prepare the CSMEP FY05 Annual Report summarizing progress made through FY05.

Metrics: (no metrics needed beyond the deliverables/reports specified by contract)

Deliverable Specification: The CSMEP FY05 Annual Report will build on the 4 quarterly reports prepared during FY05 by providing the details behind the bulleted summary statements. The report will be structured like the FY04 Annual Report, which contained a short executive summary, an introduction section describing CSMEP and the intent of work during FY05, followed by sections providing details of the tasks carried out in FY05 to achieve those goals. Appendices may include workshop reports and the technical descriptions of various CSMEP tasks. Linkages will be provided where appropriate to documents stored on the CSMEP website.

Milestone Title	Start Date	End Date	Milestone Description
Deliverable: Complete FY05 Annual Report		12/31/2005	<i>See the Deliverable Specification above</i>

J: Produce Annual Report

Title: Prepare FY05 Annual Report

Description: Prepare the CSMEP FY05 Annual Report summarizing progress made through FY06.

Metrics: (no metrics needed beyond the deliverables/reports specified by contract)

Deliverable Specification: The CSMEP FY06 Annual Report will build on the 4 quarterly reports prepared during FY06 by providing the details behind the bulleted summary statements. The report will be structured like the FY05 Annual Report, which contained a short executive summary, and introduction section describing CSMEP and the intent of work during FY06, followed by sections providing details of the tasks carried out in FY06 to achieve those goals. Appendices are likely to be more substantial as they will contain final reports for the major CSMEP tasks. This will include the DQO design reports for Status and Trend monitoring and Hydro, Habitat, Harvest, and Hatchery action effectiveness monitoring. Linkages will be provided where appropriate to documents stored on the CSMEP website.

Milestone Title	Start Date	End Date	Milestone Description
Outline for FY06 Annual Report	9/1/2006	9/15/2006	Prepare outline for the FY06 CSMEP Annual Report based on the Quarterly Reports and the structure of the FY05 Annual Report.
Review of Outline	9/16/2006	9/20/2006	CSMEP membership review outline and provide comments to authors.
First draft of FY06 Annual Report	9/21/2006	9/30/2006	Annual report authors revise outline based on review comments and then complete first draft of FY06 Annual Report. The report will be circulated to the group for comments and revisions during the 4th quarter of FY06.
Final FY06 Annual Report	10/1/2006	10/30/2006	Finalize FY06 Annual Report based on review comments.